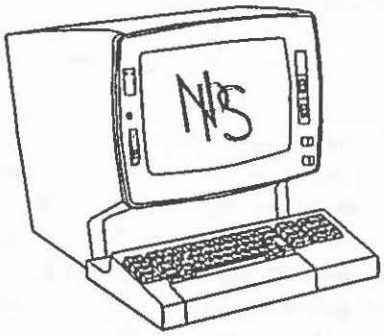
1989-02-22

Computer Center Bulletin / February 22, 1989

Monterey, California, Naval Postgraduate School

Computer Center BULLETIN



Naval Postgraduate School Monterey, California

February 22, 1989

ANNOUNCEMENTS

OLD MVS DATA SETS TO GO

The following discussion concerns only MVS data sets, NOT files on A-disks (or B-disks) under VM/CMS.

Background

From 1980 through June 1987, the NPS Computer Center had a 1970's vintage IBM 3850 Mass Storage Subsystem (MSS) which provided users with what appeared to be infinite online auxiliary storage. The number and size of the data sets belonging to the students, staff, and faculty were a good fit for this hardware for many years, but increasing maintenance costs, unreliability and the uncertain future of the product prompted the Center to replace it with IBM 3380 disks under the control of the Data Facility Hierarchical Storage Manager (DFHSM).

Prior to the migration from the MSS to the new IBM disks, users were asked to get rid of obsolete data. We assumed that only the owner knew the value of his or her data sets and that each owner would do the requested evaluation. If a data set was not cataloged, it could not be moved, although users were contacted to make sure nothing needed was lost. Every cataloged data set on each MSS volume was migrated to the new system.

Expiration Dates Approaching

The migration was begun on 21 June 1987 and completed the second week in August, but almost everything was migrated over the Fourth of July weekend. Before the migration users were informed that data sets would have an expiration date on the new system of two-years--since-the-last-date-referenced. The first two--year anniversary will arrive in less than 5 months. A test run a few weeks ago identified almost 2,500 data sets as subject to deletion. Most of these data sets are obsolete and their deletion will be no problem, but we are sure that there are still some important data sets out there that should be preserved. ONLY YOU KNOW WHICH ONES THESE ARE. The Computer Center staff will be happy to assist users in properly archiving data sets which must be

saved, but which no longer need be kept on DASD.

Procedures for archiving will be published later. It is time now for you to decide which of your data sets will need to be archived. A list of data sets scheduled to be deleted on 1 July will be placed in the Consultant's Office (In-146). Any questions or concerns should be addressed to Linda Mauck, In-105, x2651.

Linda Mauck

NEW LOOK

This issue of the Bulletin looks different! It was produced with WordPerfect 5.0, and mainframe and micro graphics packages. WordPerfect 5.0 has been available in the Micro Lab for some time now; most impressive has been the variety of fonts (including Palatino, the main font used in this Bulletin), graphics capability, and the quality of the Micro Lab's AST laser printer. (It should be noted that while Micro Lab printing is far blacker and sharper than the mainframe's IBM 3800 printer, it is also more costly to the Computer Center, and more limited in available capacity.)

Larry Frazier

VM/CMS TOPICS

NEW EDITION OF TN VM-01

A new edition of the *User's Guide to VM/CMS at NPS* (Technical Note VM-01) has returned from the print shop. This publication is a basic reference for the Computer Center's timesharing computer system. The technical note has been updated and describes some new EXECs written by the Center's staff to make the system easier to use. These include GETSTOR to increase virtual storage, TDISK to attach a temporary disk to the virtual machine, and GETMVS to copy files from MVS to a user's A-DISK. Copies of this technical note are available in In-146.

Helen Davis

AVIATION DISCUSSION LIST AVAILABLE

According to Rich Zellich <ZELLICH@SRI-NIC.ARPA>, there is a new mailing list available via DDN or BITNET for people interested in aviation. The list, called AVIATION, discusses topics of interest to pilots, including

- training systems,
- laws affecting availability or usability of airports, planes, and procedures,
- characteristics of aircraft and avionic products,
- comments on commercial aviation, such as safety and convenience issues,
- mentions of fly-ins or similar private pilot activities,
- historical notes,
- whatever else the readership wants.

All requests to be added to or deleted from this list, problems, questions, etc. should be sent to

`AVIATION-REQUEST@MC.LCS.MIT.EDU`

List coordinators are Oded Feingold <OAF@THINK.COM> and Gaylord Miyata <MPSG.MIYATA@OZ.AI.MIT.EDU>.

Caroline Miller

NEW FEATURES OF MVSHELP

MVSHELP is a CMS facility which assists the user in creating MVS utility jobs. These utility jobs perform maintenance functions on MVS data sets such as listing, allocating, renaming, and deleting. Three new functions have recently been added to MVSHELP.

1. RECALL

MVSHELP will create a small program which recalls a migrated MVS data set from Level 1 (compressed disk) or Level 2 (tape cartridge) to Level 0 (active disk).

Recalling is important only if you plan to use an MVS data set on a holiday when no computer operator is on duty. Without an operator, data sets cannot be recalled from Level 2 (tape cartridge). By running the recall program a few days before the holiday, your data sets will be available at Level 0 during the holiday.

2. EXAMPLES

This feature provides sample MVS programs for maintaining and investigating MVS disk data sets and tape files.

3. *INFORMATION*

This feature provides the user with on-line information about an MVS data set which resides on a Level 0 disk. The user can also create an MVS utility job which provides a written report. In addition to the same information provided on-line, the written report will show the amount of empty space in the data set.

Several modifications have been made to previously defined MVSHELP functions.

- References to the model 3350 disk VOL=SER=MVS004 have been removed. MVS004 is scheduled for removal.
- When allocating a data set, MVSHELP will specify a default BLKSIZE <= 23476. The previous version of MVSHELP used a smaller number.
- You can create jobs to delete, rename, or recall MVS data sets even if you have not supplied MVSHELP with a list of your MVS data sets.

Problems or comments should be sent to Dennis Mar, In-102A, ext. 2672, userid 2001P or through the FEEDBACK panel (PF5) in MVSHELP.

Dennis Mar

GRAPHICS

MAINFRAME GRAPHS ON PCS

With access to the IBM mainframe and a laser printer, Wordperfect 5.0 can now imbed DISSPLA graphics. Use the following statement in your DISSPLA Fortran program; it's similar to other device CALL statements.

```
CALL CGMBO (0,0,0)
```

This produces a file with filename CGMBOUT and filetype DATA on your A-disk. Notice that the character after the B is the letter Oh, as in Output, and the characters in parentheses are zeros.

In WordPerfect, press Graphics <Alt-F9>, select F for Figure (or other graphics category as you prefer), then C for Create, then F for Filename. Type in the name of the file you just copied from the mainframe. If you do nothing else, the file prints half a page wide, justified to the right side of the page. You may want to select S for Size and then W for Width and then 6, to get the figure to fill the full width of the page. You'll probably want to select C for Caption, to type in a caption for the figure.

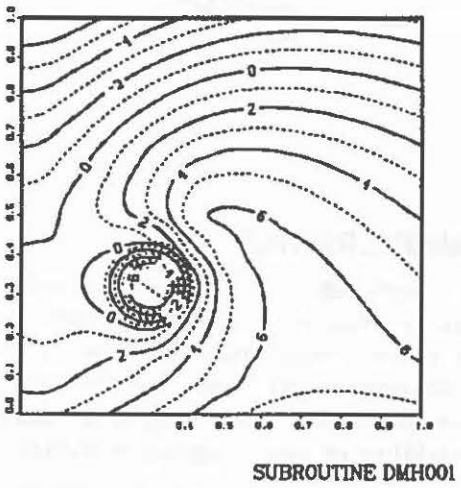
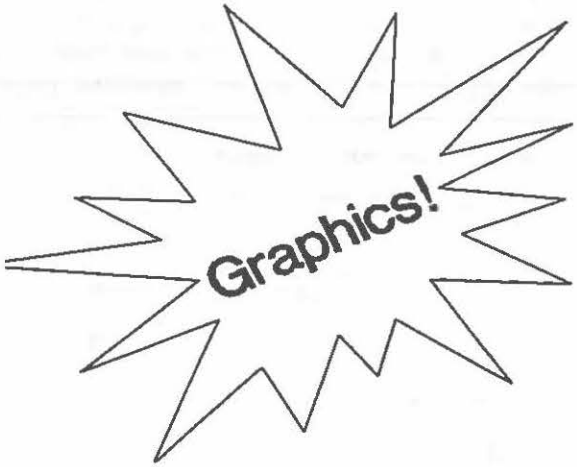


Figure 1. Sent in Moments From Disspla and Printed Here in WordPerfect!

After creating the figure, you may want to see how it will look on the page. Print <Shift-F8> then V for View Document to get a general idea. If you want to adjust the appearance of the figure, select Graphics and Figure again, and then select O for Options. This allows you to change the border of the figure (perhaps to None). Also, you can select Figure and then Edit to adjust the size of the figure. WordPerfect allows you also to change the size of the figure within its block of white space, and to rotate it. For further information, see Larry Frazier, In-113, x 2671.

Thanks to June Favorite for making this available; she is working on getting other file-transfer options working. See Larry Frazier, In-113, x 2671, for help in sending CGM files to PCs, and reading them in to WordPerfect 5.0.

Larry Frazier



COMING GRAPHICS

The Micro lab staff is currently installing and becoming familiar with new graphics software and a new Xerox image scanner. Please watch the bulletin board outside of In-103 for announcements of scanning demonstrations and availability of new graphics software.

The image above, in fact, was created with Harvard Graphics (under evaluation by the Micro Lab) and imported and rotated by WordPerfect.

Kathy Strutynski

MICROCOMPUTER TOPICS

WORDPERFECT THESES

The Computer Center is providing increasing levels of support for students using WordPerfect to prepare their thesis. Micro Lab staff members teach and support WordPerfect; Computer Center staff member Larry Frazier (In-113, x2671) teaches and supports the use of WordPerfect for theses. This includes talks given in the first month of each quarter, question answering, and WordPerfect Styles.

Styles are the system provided by WordPerfect to streamline repeated sets of commands. For example: to begin a new chapter, it is necessary to space down an extra half inch at the top of the page, turn on bolding, turn on centering, and mark the text of the title for inclusion in the table of contents. This sequence isn't particularly difficult in WordPerfect, but it can be made easier.

Simply press Style (Alt-F8), and a menu of available pre-defined command sequences appears. Use the arrow keys to move down to the desired style, and press Enter. Each style is briefly described to the right.

Besides the set of styles (still being added to), there is available a sample signature page, with three pages of information on using the styles and other thesis tips. These styles and documentation can, of course, be copied and taken home for use on your own WordPerfect system. They are, it should be noted, of little use for releases of WordPerfect before 5.0.

To get your own copy of these files, log in to the Micro Lab network in In-151 (instructions in the lab), and at the DOS prompt, type

```
thesisa
```

This copies the files to your formatted floppy disk in the A-drive. If you're going to be working on your thesis at the Micro Lab, type

```
thesis
```

instead, and the documentation files will be copied to your current directory.

Larry Frazier

PROTECT YOUR INVESTMENT

If you are using the Xerox system, be sure to copy any important files to diskette. Any system can have a hardware failure and no one wants to re-create text or graphics. Then, if you come into In-151 and the Xerox network is not operational, you will probably be able to use any of the systems as stand-alone workstations. Also, if you forget your password, you will be able to logon as GUEST, using "guest" for the password, and then load your files from a floppy diskette.

If you are using the PC network, you may want to copy your files to the network drive, F:, because response time from WordPerfect and other applications is usually much shorter if the data files are on the network hard disks. However, be sure to copy these files to diskette after making major changes. Do not depend on any hardware to be free from failure.

PRINTER PROBLEMS

We have been encountering problems with the network printers, and all technical publications warn users that network printers are difficult to use. This means that you should be very careful when selecting printers in WordPerfect or other applications. If you are not sure about how to select the printer, please see someone in the Micro Lab (In-151) for help.

Kathy Strutynski

MVS TOPICS

MVS USAGE IN 1988

The following is a summary of usage for selected MVS batch processing programs run in calendar year 1988. The MVS accounting package records each instance a program is called in a job step and the cpu time used.

Some MVS jobs such as SAS are single step jobs. Others such as FORTVCLG are multi-step jobs. FORTVCLG contains three steps. Each time it is called, the count and cpu totals would be increased for FORTVS (VS Fortran compile step), IEWL (linkage editor step), and GO (execution step).

Total Usage

Total usage counts the number of job steps executed and the total time attributed to the steps.

	1988 Steps	CPU Hours	1987 Steps
Total	1,169,623	10,009	1,118,040

Program Execution

The following steps perform the program execution phase of many MVS jobs. The GO step executes the user's compiled code. The GO step is common to programs written in Fortran, PL/1, VS COBOL, DSL, Simscript, and others. The linkage editor (IEWL) runs during the LKED step. The LOADER functions like the GO step for procedures which do not require the linkage editor.

	1988 Steps	CPU Hours	1987 Steps
IEWL	119,846	51.8	109,111
GO	112,097	4,866.4	101,691
LOADER	8,389	317.8	5,607

Language Compilers

Much of the PL/1 and VS COBOL use comes from administrative and tenant organizations.

	1988 Steps	CPU Hours	1987 Steps
PL/1	73,543	98.2	62,831
VS Fortran	48,758	50.6	46,663
VS COBOL	1,900	1.6	2,232
Fortran H	1,204	1.3	3,899
VS2 Fortran	530	0.3	...
Assembler	492	2.1	432
Pascal VS	10	0.0	11

Statistical Packages

SAS, SPSSX, and BMDP are the well-known general purpose statistical packages. In addition to academic use, SAS is heavily used by the Computer Center's accounting system and by tenant organizations.

	1988 Steps	1988 CPU Hours	1987 Steps
SAS	71,889	971.7	50,790
SPSSX	2,936	30.0	12,628
BMDP	283	0.3	392

Simulation & Specialty Languages

The cpu time for CSMP (Continuous System Modeling Program) and GPSS (General Purpose Simulation System) includes both program compilation and execution. DSL (Dynamic Simulation Language) and Simscript separate compilation and execution into different steps. Their cpu hours account only for time spent in compilation. REDUCE is a symbolic manipulation language.

	1988 Steps	1988 CPU Hours	1987 Steps
GPSS	2,104	2.5	977
Simscript	4,329	6.9	778
REDUCE	11	0.5	5
DSL	3	0.0	0
CSMP	2	0.0	82

Utility Programs

SYNCSORT is a commercial sorting package. TAPE is a tape information program from Princeton University.

	1988 Steps	1988 CPU Hours	1987 Steps
SYNCSORT	58,696	206.8	48,995
TAPE	1,247	0.9	1,624

IBM Utility Programs for Data Sets

These IBM utility programs perform various functions such as allocating, copying, erasing, cataloging, archiving, and listing MVS data sets.

	1988 Steps	1988 CPU Hours	1987 Steps
IEFBR14	87,624	0.4	75,391
IDCAMS	25,180	42.8	40,883
IEBGENER	21,711	8.7	37,620
IEHPROGM	5,276	0.7	5,700
IEBPTPCH	3,544	0.3	2,227
ADRDSSU	2,770	70.3	3,095
IEBCOPY	1,616	0.9	1,993
IEBUPDTE	1,167	0.1	1,277
IEHLIST	1,064	0.1	8,391
IEHMOVE	58	0.1	1,196

Dennis Mar

MISCELLANEOUS

PERSONNEL NOTES

In January, the Computer Center welcomed Karen Yates to the User Services Group. A graduate of the University of Central Florida, Karen has an extensive computer background. In previous jobs she worked in a capacity management group (IBM3090-600 under MVS/XA) for a Virginia bank and in a human performance research group with the Navy's Visual Technology Research Simulator (Orlando, FL). At the Computer Center, her initial responsibilities will be with the statistical packages and with MVS. Karen is married to Lieutenant Philip Yates, who is studying aeronautical engineering at NPS. Karen's office is In-111, x2539, userid 0149P.

Helen Davis has moved from her old office to Ingersoll 112. Her new telephone number is now x2446. She and Jane Kretzmann will be sharing that office.

Dennis Mar

IMSL Q & A

The following article is adapted from two issues of "Directions", published by IMSL, Inc. These are vol. 5, no. 4 (1988) and vol. 6, no. 1 (1989).

Q: My program aborts when my call to an IMSL routine is executed. What should I do before contacting IMSL?

A: Run the documentation example for the IMSL subroutine that you are calling. This has two useful results. First, you may spot a problem in your program by entering the documentation example. Second, if the output you obtain is different from the output given in the user's manual, it will help IMSL pinpoint your problem.

Q: How can I get a confidence interval on the regression function at a point not in my data set?

A: This can be accomplished by including additional rows in the data matrix. These additional rows should contain the desired settings of the independent variables along with the responses set to the non-number constant (AMACH(6) in single precision (or DMACH(6) in double precision). These extra observations will not be used in determining the estimates of the regression parameters in RGIVN, but a predicted value and confidence interval will be computed from the given settings of the independent variables in RCASE.

Q: Why do I obtain different eigenvectors from the documentation example given in the IMSL MATH/LIBRARY User's Manual for the routines that output complex eigenvectors?

A: Eigenvectors can differ by a multiplicative constant. For a complex eigenvector, the constant is complex. An attempt is made to normalize the eigenvectors so they are the same on all machines. The largest component in each vector is set to 1.

Q: Why is it that in using subroutine CSSCV my data is not smoothed on output?

A: CSSCV will not perform smoothing if it finds your data already smooth. If additional smoothing is required, use subroutine CSSMH and specify a smoothing parameter.

Q: Do the IMSL Libraries have the capability to send error messages to another file?

A: Yes, the subroutine UMACH allows the user to redefine the output device unit number used by IMSL routines that produce output. UMACH is included in each of the Libraries.

Q: Do the IMSL libraries have any graphics capabilities?

A: The libraries have line printer graphics that include histograms, scatterplots, and others.

Q: How can I find a routine in the new libraries that gives me the exact ability that an Edition 9.2 routine had?

A: Look at the source code of the interface routine you are interested in from Edition 9.2. The code will describe how to use the new libraries to obtain the same capability. A table giving the old names and corresponding new names can be found in IMSL Technical Report 8709; contact the Editor to receive a copy of this report.

Q: How do I know if a particular capability is included in the IMSL libraries?

A: Information concerning the capabilities contained in the IMSL libraries can be found in the KWIC index or the GAMS index, which are contained in each User's Manual. If the capability would logically reside in a particular chapter, the chapter introduction may be useful in locating a particular routine.

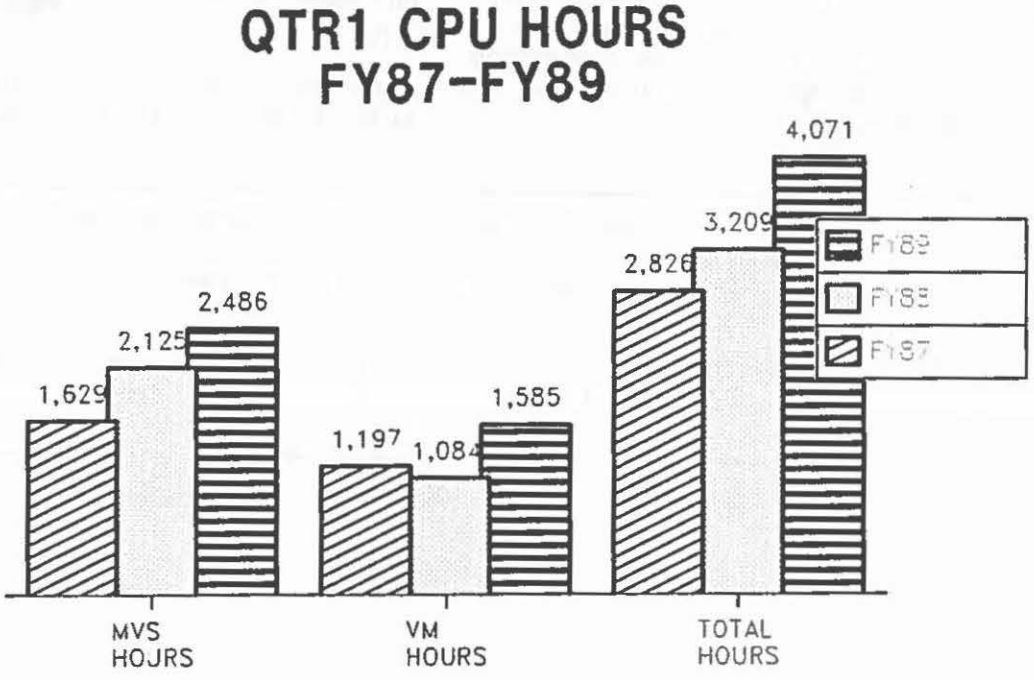
Q: The last half of an output array is all zeros. What happened?

A: This can happen if you are sending a double precision array to the subroutine when it expects a single precision array.

Neil Harvey and Karen Yates

MAINFRAME USAGE

The following graph (produced by Ruth Roy using the mainframe graphics package ICU) shows VM (interactive) and MVS (batch) usage for the first quarters of fiscal years 1987, 1988, and 1989.



OPERATIONS INFORMATION

CONSULTING HOURS

Mon-Fri 0900-1130 and 1315-1545 in In-146

Reference materials in the Consulting Office must not be removed from that room without special permission of the Consultant on duty or a Computer Operations Shift Supervisor.

HOURS OF OPERATION

VM CMS and MVS are available 24 hours a day, 7 days a week. Preventive maintenance is normally performed 0700-1400 hours, first Sunday of each month. Systems work may occasionally be performed between 0700 and 1200 on Saturdays; advance notice is given in the VM CMS log message.

Call 646-2713 for recorded system status.

MICRO LAB CONSULTING HOURS

1100-1200 and 1300-1700 Monday - Friday

MICRO LAB OPEN HOURS

0900-2100 Monday-Thursday
0900-1700 Friday
Weekends: as posted on Micro Lab door

See Micro Lab assistants during consulting hours for combination to access Lab when it is closed.

MVS Job Queue Restrictions

No more than 3 MVS (Batch) jobs per individual may be executing and or waiting execution. This policy allows each individual a fair share of batch processing capacity, and prevents spooling overload problems. Excess jobs will be cancelled.

Information on Printed Output

The Computer Center has an IBM 3800 non-impact printer and a 3262 impact printer in In-140. These printers are available around the clock, 7 days a week. (See "HOURS OF OPERATION"). If you want a printer unloaded, expect to wait until an operator is available. However, if you have received instruction from a computer operator, you may remove printout from either printer. If you do, please leave separated output on the counter-top, or file it by distribution code. Please observe these rules:

Press the READY button after removing output.

Make sure output is folding correctly in the output hopper.

Separate all jobs in the batch of output removed from the printer.

Avoid unnecessary printing. Return output to your terminal for review and editing prior to printing. Use the default output class, SYSOUT=A, for general output from MVS. This produces two output pages per sheet of paper on the 3800 page printer.

Budget restrictions and good computing practice dictate that only one final copy of a thesis be produced on any of the Center's printers. If more than one copy is required, use of duplication facilities on campus is recommended. But please note that the NPS printshop will not cut or bind more than one personal copy.

Please put unwanted printout in any trash container in In-140, In-141, or In-151, for recycling.

This publication is published as required and is written by members of the staff, W. R. Church Computer Center (Code 0141), Naval Postgraduate School, Monterey, CA 93943. Send requests for information or suggestions for articles to the User Services Manager, Code 0141 (In-133), 646-2752 (messages: x2573). Bitnet: 0002P@NAVPGS

The Center operates an IBM 3033 Attached Processor System (16 megabytes) loosely coupled with an IBM 3033 Model U (16 megabytes) and an IBM 4381 Model P13 (16 megabytes). Interactive computing is provided under VM SP CMS, batch-processing under MVS with JES3 networking.

Distribution: List 3, plus: 400-B3, 3-B4, 10-F3, 3-F4, 1-F6, 1-F7, 12-PERSEREC